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ABSTRACT

This publication describes in considerable detail plans for a research program designed to investigate the use of school and university certificates as prerequisites for employment and the impact of that use on schools and universities. Specifically, the research program is designed to investigate three basic theses: 1) that the use of formal educational qualifications to select people for employment makes education a major determinant of life chances; 2) that, as a result, the qualifying or grading function of schools tends to be exalted at the expense of the educational function; and 3) that attempts at educational reform that do not take into account linkages with the employment market are fruitless. The research plan examines these questions in greater detail, describes the methods selected for researching them, and offers a bibliography of relevant previous research. (Author/JG)

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QUALIFICATION AND SELECTION IN EDUCATIONAL SYSTEMS

A Programme of Research

part I: How Employers Use Qualifications
and
How Qualifications Affect Schools

No. 70

April 1975

Summary

In most countries, school and university certificates are an absolute precondition for acquiring a respectable, secure and well paid job. For what reasons do employers - governments and private firms - require them? Do employers have good grounds for demanding a higher rather than a lower certificate for certain jobs? Why have the standards of certification for many jobs risen over the years? Obversely, it is widely believed that employers' requirements force the schools and universities to concentrate their energies on the mechanism for obtaining the qualification, and, worse, on the learners most likely to be successful - in other words, to focus on selection and to neglect education. How accurate is this belief? The programme of research described here sets out these questions in greater detail, describes the methods selected for researching them, and offers a bibliography of previous relevant research.

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Preface

The research programme which is offered here for information and comment, is an abridged version of an earlier and more comprehensive proposal. In our first thoughts, we were concerned with three major elements, two of them dependent on the third.

The independent factor was the uses which employers make of educational qualifications when they recruit and select personnel. The first dependency was the effects of these uses - direct or mediated through mechanisms of sorting and grading - upon the internal workings and results of schools and universities. The second was the effects of these uses on the distribution of educational opportunity and of income. Specifically, we hypothesised that, because employers demanded proof of education as a prime pre-requisite for employment, educational opportunity would tend to be appropriated by the better off; who would thereby appropriate, too, a large share of employment and income opportunity. Since these appropriations would be justified on the grounds of superior education, education would in effect be legitimising and perpetuating socioeconomic inequalities. Further, it might actually assist the acquisition of attitudes which regard all manner and all degrees of inequality as natural or justified.

Consideration of this second dependency has been omitted here. The reason is merely the constraints of resources. We have concentrated on the more direct phenomena of the behaviour of employers and the behaviour of people in and around schools. When we have done something to clarify the relationships between those who employ and those would be employed, we intend to resume the exploration of the impact of those relationships upon economic inequalities.

Parallel with the main thrust of this programme are three smaller projects. One deals with educational developments in China since 1966; particularly with the attempts to break the direct link between general schooling and employment. Another is to examine how curriculum reform is undertaken and to what extent the implementation of the reforms is influenced by mechanisms of assessment and qualification. The third will trace how people adjust their attitudes and actions, when their qualifications fail to secure them the employment they want. As the methodology for each of these studies is elaborated, we shall hope to circulate them in interested quarters.

We are glad to acknowledge here, sincerely if collectively, the considerable help we have received in shaping this programme of research. We owe a particular debt to the individuals and their organisations who gave us two days of their time at a conference to comment on and improve our proposals for action.

The first part of the programme described here is sponsored by the Educational and Scientific Council for Overseas Research of the Ministry of Overseas Development (U.K.), the second by the Swedish International Development Authority. Both sponsors have been generous, too, in other forms of assistance.

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Qualifications and Selection in Educational Systems

Summary

This research will examine how employment practices so distort (if unwittingly) school education, that its power to form productive human resources is gravely weakened.

Its basic theses are:

1) that the use of formal educational qualifications to select people for modern sector employment makes education a major determinant of life-chances;

2) that, as a result, the qualifying or grading function of schools tends to be exalted at the expense of the educational function (and more so in poor countries than in rich ones);

3) that attempts at educational reform which do not take into account linkages with the employment market are fruitless and/or trivial.

Its specific objectives are:

1) to test these theses;

2) to examine some of the assumptions on which the present use of the school system for allocating jobs rests (e.g. concerning the knowledge and skill requirements of various occupations);

3) to isolate and describe some of the factors which account for the variation in intensity of qualification-orientation from school to school;

4) to gather information relevant to the feasibility of alternate ways of:

   a) selecting and training men and women for modern sector jobs, and

   b) organizing schools.

Its programme is:

1) PHASE 1 will consist of labour market studies - e.g. interviews with employers on their use of educational qualifications and enquiry into the relationship between education and job-performance. This research will be conducted in Kenya, Sri Lanka and Mexico.

2) PHASE 2 will consist of school and community studies - e.g. intensive examinations of the quality and meaning of education in selected communities and analysis of selection for higher education. This part of the research will be conducted in Kenya and Sri Lanka.

Qualifications and Selection in the Educational Systems of Developing Countries: A Programme of Research.

Statement of the Problem.

An optimistic faith in the efficacy of "investment in human resources" as a force for economic and social development was little questioned in the Third World a decade ago. Today, however, in many countries, it is giving way to increasing doubts. Among the overt problems which have prompted this re-evaluation are the following considerations.

> The difficulty experienced in making basic primary/junior secondary education relevant to the probable futures of the majority of children for whom it is provided. Even on the most optimistic assumptions, the economy is unlikely to offer these children a livelihood outside the traditional non-wage sector.
>
> The growing numbers of secondary and tertiary graduates with no prospect of finding the jobs which their education has conditioned them to expect.
>
> The relentless pressure for expansion of secondary and university places despite a growth in educated unemployment.
>
> The rising costs of education, both absolutely and as a proportion of government expenditure and national income.

A further problem is perhaps less often discussed.

> The education of those graduates who do get the jobs they expect often seems not to have given them the powers of initiative, the motivation, and sometimes even the technical competence which would enable them to play a full part in the development of their country.

The Search for a Cure.

Most discussions of these problems attribute them either to:

1) What goes on in schools -- problems of the quality and relevance of the curriculum which, it is assumed, can be resolved within the existing framework; or

2) the amount of schooling students receive -- failures, as development planners would say, to adjust (i.e. hold back) the outputs of secondary and higher schools to actual levels of manpower demand.

This research focuses on a different and, we argue, a more fundamental aspect of the problem - i.e. the use of educational qualifications in the labour market, the effect of that use on the internal structure of the educational system, and the way these factors operate to motivate teachers, parents, and children. In other words, we seek to question the following

basic assumptions which usually remain unquestioned in discussions of educational problems in developing countries:

1) that (specific skills apart) there is some necessary intrinsic connection between the "level" of a job and the level of general education needed to fill it;

2) that the obvious way to produce people with higher-level skills is by giving them a formal institutional training to develop these skills before they start their careers;

3) that it is necessary and desirable, therefore, to give educational qualifications the importance they generally receive in job-recruitment; and

4) that the only acceptable (just and efficient) method of selection within the educational system -- for secondary education beyond "the universal access span" and for tertiary-level education -- is by tests of academic achievement.

In short, we question the acceptance of the twin principles of pre-career qualification and achievement-test selectinn.

That these principles are generally accepted seems best explained as an example of the inappropriate diffusion to poor countries of rich-country social technology. "Educational aid" in the 1950s often started from the explicit assumption that all developing countries needed to do was to import our patterns of education (and our ways of linking schools to jobs through the labour market) as quickly as possible. Nowadays such an assumption would be questioned in principle. Yet in practice, pre-career qualification and achievement-test selection remains unassailed.

The Thesis.

Our assumption is that alternatives to these principles need to be considered. We suspect that they are inappropriate to the needs of poor countries on several grounds.

Let us take pre-career qualification to begin with.

First, it costs much more than the alternative patterns (in our society, the older patterns) of apprenticeship, on-the-job training, and recurrent in-career education. But there is no evidence that it is more efficient. The viability of apprenticeship patterns is shown by the fact that, in Britain, professions such as architecture and accountancy still cling to them .

And where apprenticeship has been abandoned in favour of pre-career formal qualifications, it has not necessarily been for reasons which have had anything to do with the need for efficient job performance. British libraries were run for centuries with reasonable efficiency before it was discovered that librarianship could not be learned on the job but

required formal tertiary-level qualification. Why, then, this change?

There are two parts to the explanation. The first is that with greater affluence, and a consequent educational expansion, the kinds of people whose general intellectual ability was sufficient to make them good librarians were being carried up to tertiary-level anyway. As a result, for libraries to have continued to take from those who left school at fifteen would have meant recruiting from further down in the ability distribution. Second, the process of qualification-escalation was attractive to librarians themselves since it enhanced their prestige and salary claims. (And, it is, of course, members of that profession who are called on by aid agencies for assistance in establishing library services abroad. They would think of themselves as both traitors to their profession and guilty of patronising neo-colonialistic attitudes if they recommended that developing-country libraries should "make do" with librarians of lesser educational qualifications, lesser prestige, and smaller relatives salaries than themselves.)

So, if pre-career qualification patterns are more wasteful than apprenticeship and in-career training -- even for those professions like librarianship, engineering, and medicine, in which there is at least a plausible connection between the content of the training and the nature of the job -- then the wastefulness is even more obvious in the case of administrative occupations which recruit arts and social sciences graduates. It is, after all, inherently implausible that a training in English literature or history is a necessary prerequisite for adequate performance as a civil servant. Large numbers of people who have spent their late adolescence using their minds in entirely different ways (e.g. studying mathematics or archaeology) have seemed to do no worse. (In Britain, the only common factor that all these diverse forms of "training" have is that they incidentally and extra-curricularly provide an introduction, for the minority who need it, into middle-class life-styles).

In other words, it is only partially and in some respects by chance that universities provide a training in the skills important to socio-economic development. More important (and most obviously in societies like Japan, with its rigorous entrance-examination screening process), entry into and performance at the university serves as an expensive means simply of distinguishing the potentially more able from the less bright.

Rich societies can afford these highly costly means of identifying talent and legitimising the access of the talented to the more desirable positions in society. But in poorer societies (e.g. in Africa, where the monthly cost of educating a university student is often four or five times the yearly minimum wage), such expenditures can only be justified if there is clear evidence that the pre-career qualification method is more efficient than the possible alternatives.

In fact, there is ample reason to believe that it is not only not more efficient in developing countries, but that it has

positive disadvantages there which spring from the competitiveness and anxiety surrounding the achievement-test selection process.

"Success" depends on spending late adolescence continuing to prepare for competitive examinations, submissively tailoring one's activities to the dictates of Olympian examiners. As a result, schooling becomes an exercise in conformity, in the careful avoidance of mistakes, in self-protection, and in self-advancement. Such behaviour can have a positively disabling effect on socio-economic development. It is apt to produce careful, ritualistic job-performers who are incapable of initiative, imagination, or dedication to any larger purposes than their own career advancement. Furthermore, success in such rigorous competition can breed a sense of being entitled to specific types of employment -- and of having a right to expect the government to provide them.

Why do we suggest that this "backwash effect" of pre-career qualification and achievement-test selection on the quality of education is worse in developing societies? There are at least five reasons.

1) Because developing countries tend to adopt the pre-career qualification system from the beginning of their attempts to modernize, achievement tests are more crucially decisive of a man's life chances. Societies which modernized earlier have preserved more varied routes of social mobility.

2) The prizes at stake in this educational competition are enormous because of much wider salary differentials in poorer societies. The rural child who passes the Standard VII selection test in Tanzania, for example, has a good chance of earning 10 times as much and a reasonable chance of earning 40 times as much as the child who does not. (And higher education is often more highly subsidized in poor countries than in rich ones)

3) For the "first-generation-schooled" children of Asia and Africa, the disjunction between the culture of the home and the book-culture of the school is much greater even than that for the European working-class child. The curriculum is thus less meaningful, and as a result is more easily ritualized as a means to examination success.

4) Schools with good equipment and libraries -- common in richer countries -- have a better chance of awakening curiosity and intellectual interest than do schools in poor societies, which cannot afford anything except education by chalk and talk.

5) History: the secondary schools and universities of Africa and many parts of Asia were, from the beginning, almost exclusively qualifying institutions. They had no way of sustaining the aristocratic knowledge-for-its-own-sake traditions imported from the metropolitan centres because they had no students in the enviable position of not having to worry about their future.

For most students, examination performance determined position in society; it did not simply confirm it.

Recent British history provides some confirmation of this thesis. There is good reason to believe, for example, that examination-centred ritualism is getting worse in British education (though now, as society has become richer, from 15+ rather than at 11+). The reasons for this development fit well with the sources of the"backwash effect" described below./1

What Does "The Thesis" Explain?

Let us relate this diagnosis to the set of problems listed at the beginning of this proposal.

1) Relevance in primary education. Most residents of poorer countries view the modern-sector world of the secondary graduate as infinitely more desirable than the traditional peasant life. Education is practically the only route from the one to the other. But the connecting selection gate is narrow and competition is intense. As a result, primary schools tend to be much more oriented towards secondary entrance than toward education directly relevant to the traditional rural environment. Planners and politicans seldom give serious thought to possible types of terminal primary education which might be appropriate for all students, without differentiation between those expecting to move on to secondary school and those expecting to leave school. For parents, teachers, and children, the chief thing that primary school is about is getting into secondary.

2) Educated unemployment and the pressure to expand. The intensification of competition for secondary education

/1 Until recently, education in British grammar schools and universities served to confirm rather than to determine the eventual social status of the overwhelming majority of their graduates. (C.A.Anderson, "A Sceptical Note on the Relation of Education to Mobility" in A.H.Halsey, J.Floud and C.A. Anderson, eds., Education, Economy and Society, 1961.) Most pupils were middle-class children destined for middle-class status anyway by virtue of their parents' wealth or connections. (David Glass, "Education and Social Change in England" in ibid). But with increased equality of opportunity and an increasing proportion of university students coming from lower-middle class and skilled working-class homes - and an increasing use by employers of educational qualifications - the number of students whose occupational destination is wholly to be achieved by their educational qualification increases. This development has consequences for the quality of education, which British educationalists are now beginning more actively to deplore. One suggestion is that University arts courses should cease to grade and certify their graduates. ("The Structure of Higher Education; A World View", paper by Sir Eric Ashby, for the Conference on Higher Education, Lancaster University, September 1972).

leads to demands for more secondary and more university places, so that more children can stay in the competition for top jobs longer. These pressures are often politically irresistible. Newly enfranchised classes and castes are in no mood to be denied the fruits of their "entry into society". And new political leaders have pushed through wide-ranging "free education" schemes, both to buy off discontent and to demonstrate their commitment to equality.

The problem is that the number of jobs of the kind secondary schools traditionally qualified for does not increase as fast as the number of secondary school places. In Africa secondary school outputs have been increasing at a rate of about 15% per year for a decade. But jobs for secondary school leavers have been expanding at only about 4% at most (apart from the once-only opportunities for replacing expatriates, which are already largely at an end in most countries).

The result is that excess secondary leavers begin to take jobs which primary leavers were formerly getting. As this development occurs, individuals come to believe that it is even more essential to get into secondary school than before. So the pressure to expand secondary places intensifies still further.

In short, educated unemployment and increased pressure for more secondary and higher places reinforce each other.

3. The problem of job-performance and attitudes towards work.

This ruthless instrumentalising of the learning process (i.e. its transformation from a means of acquiring job skills to a means of simply acquiring a job) goes a long way to explain the problems of poor motivation and ritualistic job performance characteristic of many of the successful products of the system. At the same time the more education the unemployed have, the more they seem to be deprived of a capacity for self-reliance and a flexibility in attitudes to work. They thus become incapable of creating their own opportunities for self-employment.

Solutions?

Our research is designed both to test and to refine this diagnosis -- and to find clues to the viability of possible solutions. There can clearly be no simple solution to a nest of problems which lie at the heart of mechanisms which determine who-gets-what-and-on-what-grounds. Nevertheless, several possible elements in a solution can be suggested.

1) Reduction of income differentials. If the cash value of educational qualifications and of differences between qualifications was lessened, there would presumably be less competition to get them. Furthermore, reduced competition would probably lead to fewer distorting pressures on the learning process.

2) Change in the social value of different occupations, (other than by changing the wages and consumption styles which go with them.) "Moral incentives", e.g. might work here. Such change in the derived prestige value of qualifications could be expected to alter competitive pressures.

3) Change in labour market mechanisms, (a type of solution not so obviously challenging to existing interests as the last two). Specific reforms might include the identification of those individuals with the potential to enter occupations which now recruit from secondary and university graduates, and then the reshaping of their education and training. China seems to have gone further in this direction than any other society, suspending all full-time schooling at the end of the "open access" span and using a variety of selection methods for later employment and training opportunities. Various intermediate possibilities exist such as those suggested by the ILO's Employment Mission to Ceylon (e.g. combinations of earlier career selection, apprenticeships, in-career promotion, training and education, together with a re-thinking of the content of formal higher-level courses)./1

4) New methods and criteria of selection, particularly for the transition from primary to secondary (in countries where selective education will be retained). The goal of these reforms would be to modify the "backwash effects" of academic achievement tests. Possibilities include the drastic reduction of the element of recall in achievement testing, tests which are avowedly tests of aptitude rather than of achievement, achievement tests tied to special encapsulated short courses, school quota systems, etc.

5) Changes in curriculum and teaching methods (the most commonly-suggested solutions). Beeby may be right in suggesting that the pedagogy fashionable in rich countries can only "confuse" the educational practices of the Third World./2 Nevertheless, a lot can be done in countries which cannot afford expensive equipment and which can only hope for gradual improvement in the sophistication of their teachers. Any such reforms, however, must be done with careful regard for the forces which influence the actual "domestication" of centrally-planned innovations within local schools.

The Research

The Research has two main aims:

1) To check up on and to refine the diagnosis above --

/1. See ILO Matching Employment Expectations and Opportunities: A Programme of Action for Ceylon Chap., 1971.

/2. C.E.Beeby. The Quality of Education in Developing Countries. Cambridge. Harvard University Paper. 1966.

i.e. to assess the generality of the phenomena described above as typical of "developing countries" and to evaluate the validity of the assertions about their probable causes;

2. To gather evidence which will help to predict the likely efficacy of the various counter-measures which might be adopted.

The research itself falls into four main parts:

A. The Labour Market and Educational Qualifications.

B. How Schools are affected by Employers, and Qualifications.

C. Possibilities of replacing educational qualifications as criteria for recruitment and determination of salary levels.

D. Possibilities for mitigating the effects of the drive for qualifications in schools.

Each of these four parts is discussed below.

A. The Labour Market and Educational Qualifications.

How widely are the principles of pre-career qualification and achievement-test selection entrenched in developing countries? How universal is the tendency for qualification levels to escalate? What are the reasons for this entrenchment and escalation respectively? And are there grounds for thinking that employers are "rational" in insisting on qualifications (or could they make equally rational selection by other means, if educational qualifications were not available)?

This piece of research will have three specific components:

A.1. Employers' Uses of Educational Qualifications.

A.2. Qualifications and Job Performance.

A.3. Qualification Escalation.

(These studies are planned for Kenya, Mexico and Sri Lanka.

Selection of Samples of Employers

(1) How do we choose the organisations? Our founding hypothesis is that because people want 'modern' jobs and salaries, and because major 'modern' employers insist on educational qualifications as a pre-condition of employment, school children and their teachers are almost totally preoccupied by the need to satisfy the prevailing criteria of qualification.

The hypothesis involves this question: who are the generators of qualification-orientation? Is there, for instance, a readily identifiable group of major employers whose demands set the tone of the schools? Alternatively, is the requirement for qualification determined not by particular employers, but rather by prestigious professional groups? Third, it is possible that in some countries the requirements, though general, are also highly localised: a student might have a firm intention of joining a specific employer, either because of peculiar influence with him, or because his range of work is peculiarly attractive. Finally, there might be simply a general climate of belief that qualifications are essential, quite independent of prospective job or prospective employer. In our three countries, all four possibilities are likely to occur, but in proportions differing from country to country.

We propose to begin our selection of employers through a short - no more than two weeks - look at the occurrence of these possibilities. We shall ask students:

i. what thoughts they have about their future employment;

ii. whether they have actual employers in mind, and, if so, to name them;

iii by which of those employers they would like to be employed, and by which they expect actually to be employed;

iv. what school qualifications the employers require.

At the same time, we shall ask headmasters and teachers whether, in advising their students on employment, they mention particular employers and why; and whether any literature on possible employment is circulated in their schools.

If certain employers appear to be widely desired, we shall note them as "influential" and earmark them for study. If, on the other hand, the nomination of employers appears to depend on what employers exist in the vicinity of a particular school, and therefore to vary widely from school to school, we shall merely note those nominated for scrutiny under criteria to be listed later.

If there appear to be no substantial differences between the requirements of the 'liked' and the 'expected' employers, we shall take the former as more 'influential' - without investigating why - and drop the latter from consideration. If, on the other hand, they do differ substantially in their demands for qualification, we shall need to verify that the students are actually trying for the qualifications to satisfy the 'liked' employers - who in that case will clearly be more 'influential'. We shall also earmark some of the 'expected' employers for study as to whether their terms and conditions of employment are markedly inferior to those of the 'liked'.

Selecting the students to be consulted in itself presents two problems. First, there are a number of educational levels from which students enter the job market: which of them should be represented? Second, students come from a variety of backgrounds and attend schools of uneven quality; which of them should be represented?

The first point to make is that we cannot pretend to national representativeness. On the other hand, we do not wish to skew our sample more than we need. In all three countries of the study, primary school graduates have very little chance of employment as "salaried" personnel: indeed, they are scarcely classed as "educated unemployed" any more. Consequently, we shall ignore them. Secondary school graduates (twelve years of school), may have little chance of a job, but are at least still eligible and are a good deal more numerous than university graduates, and, in Kenya at least, tertiary graduates still have little difficulty in finding acceptable employment. We shall settle then for students at the point of major screening between those destined for the university and those who will go directly into the job market.

Second, to provide at least some variety of socioeconomic background and school quality, we shall select in the capital city one "High Prestige" school, (possibly a private establishment) and one "Average" school, located perhaps in the less rich suburbs. ("High Prestige" and

"Average" will be determined through informal conversations.) A third "Average" school will be selected, which is both some distance from the capital, and draws its students from largely rural populations.

In each school, 30 students, stratified equally by sex and major curricular interest, will be interviewed.

We used the phrase "begin our selection of employers" advisedly. It is possible that the students' responses will be either so general or so local, individual or specific, as to be unusable in identifying generally "influential" employers. Further, the students are unlikely in any case to provide a spectrum of employers, which would embrace all the major fields of industrial and commercial activity. A complementary approach is consequently also necessary.

Since government and public sector employment is so salient in all three countries, we assume (safely!) that their recruitment policies are "influential". Hence, both government ministries or departments and state enterprises will be represented.

In the private sector, we shall identify those categories of activity which comprise major portions of employment in the modern sector and the major employers within the categories. Size of work force, age, spread in terms of number of branches in and outside the capital city, salary levels in comparison with the public services will be the criteria for selecting particular employers for examination.

At the same time, it is as well to note that pure random selection may not be within our power: we may have to depend on friends and friends of friends to gain access to firms within the various categories.

In addition, if we hear of employers with unusual methods of recruitment and promotion, we shall make it a priority to interview them. Also, to the extent that we can, we shall hold informal discussions with smaller and 'expected' employers, to examine in what ways their methods of recruitment and conditions of service differ from those of their larger rivals.

(2) How many organisations to study? As we have stated, we have two purposes: First, to look at recruiting practices, second, to examine the correlation between educational qualification and performance on the job. The first task will be a good deal easier than the second and can be done in a variety of ways, some superficial, others rather more probing. Taking all the methods together (see below) we can expect to cover 50-60 organisations.

For the second task, we hope as a first step to elucidate the correlation between the scholastic achievements of employees, on the one hand, and the quality of their

performance on the job, as assessed by their employers or supervisors. As a further step, we hope to develop more objective (and notoriously more difficult to specify) measures of job performance and correlate them with non-school estimates of ability. Since we appear to be in relatively lightly explored territory, and since we have less than a year at our disposal, we feel obliged to emphasise a narrower and more intensive study. We shall ensure a minimum of one organisation from each of three categories - government department, state-owned enterprise, private enterprise. We shall attempt to multiply and diversify our examples, but feel unable to commit ourselves to any fixed higher figure.

(3) Summary

In summary, we shall select our samples as follows:

i. 90 students on the brink of being screened into "university-calibre" and "immediate employment" groups, stratified by sex and main subjects (i.e. Humanities or Sciences), from three schools, one 'Prestige' in the capital, one 'Average' in the capital, one 'Average' with a rural catchment, will nominate major or "influential" employers.

ii. Simultaneously, a list will be drawn up of large employers: government departments, state enterprises, private enterprises by category of activity. Employers with unusual methods of recruitment, some small-scale employers and some 'expected' employers will also be located.

iii. For recruitment practices, some 50-60 organisations will be studied at one or more levels of probe.

iv. For the correlation of qualification, performance and ability, a smaller number of organisations will be examined, subject to a minimum of three, distributed between government departments, state-owned enterprises and private enterprises.

Procedure of Studies

Employers' Use of Educational Qualifications

A.1 We shall look at:

1.1. Careers and Recruitment Pamphlets: Employers of various sorts publish pamphlets on their terms and conditions of service. As many of such pamphlets as can be found will be studied, and their various destinations and channels of distribution will be ascertained.

1.2. Newspaper advertisements of Situations Vacant: the relevance of this method of studying recruitment practices is obvious. It should be possible to study the qualifications required for a wide range of jobs in a wide range of organisations.

1.3. Employment Exchanges: as with newspaper advertisements

the relevance of this channel of information is obvious.

1.4. Employers: When contacting a particular organisation for study, we shall present our research as designed to assist the government provide more accurate information to schools on what employers are actually seeking in potential new employees. We shall explain that for the sake of thoroughness, we would like to observe also what supervisors of various jobs actually look for in their subordinates; and that full co-operation would require us to have access to

a. a complete map of the organisation's structure, including the career structure and salary/wage levels and prospects.

b. the files of people who have been recruited or promoted over the previous two years; and considered for recruitment or promotion but rejected.

c. the recruiting officer(s) of the organisation for an informal interview on procedures and criteria.

d. selected supervisors and their immediate subordinates, to be identified only after a study of the organisation's map and consultation with the recruiting officer(s); and their personal files.

If an organisation declines to offer us full cooperation, we shall make the best of whatever help it will give, even if reduced to the mere provision of blank forms of application for employment.

1.5. Let us assume that full cooperation is offered. Our first step will be a review of the personal files of people who were:

a. recruited during the previous two years into any function in the organisation;

b. considered for recruitment, but rejected: (it is possible that no records will be retained of such persons, but the question will be asked);

c. promoted during the previous two years;

d. considered for promotion during the previous two years, but not promoted.

The purpose of this review will be to study the schooling, occupational training, experience and career patterns of the people in (a), (b) and (c) above. Particular note will be taken of:

(i) the types and locations of the schools/universities attended;

(ii) the nature and quality (e.g. 'Distirction') of the diplomas secured;

(iii) the socio-economic background of their families (where available);

(iv) previous posts, salaries, employers;

(v) age;

1.6. On-going Recruitment: If, during our stay with an organisation, some personnel are recruited or promoted, we shall seek to observe the procedures involved.

1.7. Recruiting Officers: In each organisation, the persons chiefly responsible for recruiting staff at all levels will be interviewed. No questionnaires will be used. Instead, discussions will be conducted around the following foci, starting from examples of actual recruitment/rejection found in the files:

(a) When you were filling post x, how many applicants were there? Was there a short list of candidates? What did they have in common? In what ways did the person appointed stand out from the unsuccessful?

(b) When you consider a person for a job at a given level, what do you look for? Why? What about..... (other characteristics he has not mentioned)?

(c) How do you determine whether the applicant has these characteristics? Do you have other means of predicting who will do well on the job?

(d) What means of attracting applicants do you employ? Which is the most important?

(e) Do you have any preference for people from particular schools or for those who have studied or done well in particular subjects? If so, which?

(f) How are people promoted from this level or that? What are the most important criteria?

(g) Have there been any recent dismissals from this level? If so, on what grounds?

(h) How have recruitment practices changed during your tenure of office as recruiter? Have there been any attempts to improve them?

(i) If school qualifications disappeared, how would you set about recruiting?

(j) Do you recruit for specific jobs, or do you recruit people for later allocations to functions which need to be filled?

(k) What forms of induction and on-the-job training are found necessary at the various entry levels?

A.2. Qualifications and Job-Performance

2.1 Supervisors and Job-Performance: Within each organisation's structure we shall locate at least one group of persons who:

(a) stand roughly in the middle of the hierarchy (where educational backgrounds might be heterogeneous);

(b) are regarded more as administrators than as technicians;

(c) are at least five in number;

(d) share the same supervisor;

(e) are performing the same jobs, or, where this condition does not obtain, have some functions in common within slightly different jobs;

(f) each have two or more people to supervise;

(g) needed either only general education to secure their jobs, or were eligible with a range of educational background;

(h) occupy their posts in full functioning capacity, and not as trainees for higher posts which require some potted experience of subordinate positions.

Data will be collected about the job or jobs (from the appropriate recruiting officer, the records of the organisation and from previous, now promoted occupants), the history both of its content and of the educational qualifications and other criteria deemed necessary to fill it satisfactorily. (These data will contribute to another component of this study, the escalation of qualification.)

2.2. Second, it will be ascertained whether or not there are formal criteria which supervisors are expected to use in assessing performance on the job. If so, they will be included in the study.

2.3. Third, for each member of the group and for the group's supervisor, the following data will be collected either from the organisation's records or by interview:

i. sex

ii. age

iii. place of birth

iv. Father's and/or Mother's education

v. Father's and/or Mother's occupation

vi. Mother tongue

vii. caste, tribe (if permitted)

viii. religion (if permitted)

ix. names and locations of schools and universities attended

x. school/university qualifications

(a) subjects with grades

(b) media of instruction (e.g. evening classes, correspondence)

xi. career history

(a) specific occupational credentials

(b) pre-employment training

(c) previous employment

xii. present salary and projected life-time earnings

2.4. Fourth, the supervisor will be asked to rate each member of the group according to the procedure outlined below; while, fifth, the group members will be asked to rate each other similarly. (We should remark that this outline merely illustrates the cast of our thinking: the actual words and sequences will naturally need to be adapted to the circumstances of a particular interview.)

We choose here the situation where the subordinates of a particular supervisor do slightly different jobs, but have some common functions. The situation where the jobs are identical would be simpler. The rating procedure is envisaged as follows:

Step 1: Prior to the interviews the names of the subordinates are noted on cards, one name to a card.

Step 2: The interviews open with a detailed discussion of the jobs and functions in question - content, duties, etc. - in order that the supervisor's mind should be focused on activities, not persons.

Step 3: Researcher: "From what you say, your staff seem to have these functions, (name them), in common. Let us take Function A."

(At this point, the Researcher must decide by a subjective assessment of the Supervisor whether he would do better to proceed by a direct or indirect approach. With

entrepreneurs used to judging the quality of performance, a direct approach would be better. Elsewhere, an indirect probing might prove more fruitful. If he selects a direct route, then:

Step 4 (DIRECT): Researcher: "What must a person do to perform this function well?" Notes criteria of good performance, - e.g. 'quickly', 'without mistakes'.

Step 5 (DIRECT): Researcher: "Let's take criterion x, e.g. 'without mistakes'. Can you put your subordinates in rank order on it?" If necessary, spreads name cards to assist supervisor. Notes order. Naturally, ties in ranks are permissible, or, if easier, groups of 'Above Average' and 'Average' can be formed. Remove cards before next step.

Step 6 (DIRECT): Research repeats for criteria 1, 2, etc., noting orders.

Step 7 (DIRECT): Researcher spreads name cards before supervisor. "If you had to give your subordinates a mark from 1 to 10 for the way they did Function A, how much would you give Mr. X, (points to name card), Mr. R....etc?" Notes marks.

Step 8 (DIRECT): Researcher repeats Steps 4 to 7 for all functions, but omits any criteria which have occurred with Function A.

If the Researcher adopts an indirect approach, then:

Step 4 (INDIRECT): Researcher: "Now that I am clear about the functions, I would like to think about your subordinates actually doing them. Let us think about Mr. X, Mr. Y and Mr. Z (here he refers to the subordinates in the local idiom), actually doing Function A. Can you tell me one way in which any two of these people are similar and yet at the same time different from the third person?
Supervisor replies perhaps, "X and Z are hard-working, and Y, yes, he is a bit lazy."
Researcher notes HARDWORKING-LAZY in notebook.

Step 5 (INDIRECT): Researcher: "Now let's think of Mr. Z, Mr. R and Mr. S, (two new people, if possible), also doing Function A. Can you tell me one way in which two of them are similar but different from the third?" Supervisor responds, Researcher notes.

Step 6 (INDIRECT): Researcher repeats process with successive different triads of names; elicits as many constructs as possible, but on the first signs of fatigue in the supervisor, desists from forcing fresh ones.
Notes down construct poles in the correct order.

Step 7 (INDIRECT): Researcher takes the cards bearing names of each subordinate and places them in a haphazard pattern on the table in front of the supervisor (or peer).

Researcher: "Let's go back to your words, e.g. HARDWORKING and LAZY. Would you try to sort these people out and rank (or group) them from the most hardworking to the most lazy".

When the supervisor (or peer) is satisfied that he has finished, then researcher picks up each card in turn, notes down the initials of the construct, e.g. H-L and the rank or group order. If a rank order is used, researcher ensures that ties are accounted for.

Step 8 (INDIRECT): Repeat for remaining constructs.

Step 9 (INDIRECT): Researcher: spreads name cards before supervisor: "If you had to give your staff a mark from 1 to 10 for the way they do Function A, how much would you give Mr. X, (points to name card), Mr. R ..... etc.?" Notes marks.

Step 10 (INDIRECT): Researcher repeats steps 4 to 9, for all functions, but <u>omits any constructs which have occurred with Function A</u>.

FINAL STEP (DIRECT and INDIRECT) Researcher - "Do you think that other people in your position in this organisation and/or in other organisations would describe their subordinates (colleagues) in these ways? Notes response. (For the justification of this question, please see the note at the end of this chapter.)

2.5. In addition, and if necessary, supervisors (but not the colleagues) will be asked to evaluate the performance of subordinates or dimensions constructed by ourselves. Questioning will be open-ended and will follow the earlier discussion or job-content. The supervisors will again be free either to rank their subordinates or simply to categorise them "Above Average", "Average" or "Below Average". The general dimensions are:

1) Administrative Skills:

   a) Willingness to delegate.

   b) Planning and distribution of workload.

   c) Morale of subordinates.

2) Delivery:

   a) Promptness in getting work done.

   b) Ability to cope with work-load.

   c) Freedom from complaints from clients.

3) Support to Superiors.

   a) Whom do you most readily consult?

   b) Whom do you try to avoid consulting?

   c) Whom do you most rely on to get things done?

4) Personal Characteristics

   a) Need for supervision.

   b) Acceptance of responsibility.

   c) Willingness to act independently.

   d) Ability to deal with emergencies.

5) Promotion Prospects.

   a) In situations where promotion is exclusively by seniority, we might pose the hypothetical question "If promotion were by quality of performance, whose prospects would be Above Average/Average/Below Average".

6) Contribution to the Organisation.

   Researcher: "If you had to give each of your staff a mark from 1 to 10 for the way in which he helps this section/unit do its job, how much would you award A ....." spreads name cards before supervisor and prints out A, B, C .... in haphazard fashion, and notes marks on the card.

2.6. Behavioural Indicators.

Finally, where opportunities occur we shall attempt to develop harder, more 'behavioural' data on job performance. It had better be said that, in view of the difficulties previous researchers have faced, we do not expect to achieve anything striking. This does not eviscerate the entire study of the correlation between qualifications and performance. Our chief purpose after all is to check whether employers maintain consistency between their views on the importance of education, on the one hand, and their perceptions of good performance on the other.

2.7. <u>Other Indicators of Ability</u>:

We wish to test whether the supervisors' assessments of performance by any of the three modes listed above (formal criteria, triad constructs and our own categories), correlate with other possible indicators of ability, e.g. I.Q. or aptitude tests. It is

possible that there do not exist tests normed and validated for the three countries we are studying, but that, nevertheless, some organisations are using such tests to their own satisfaction. Such employers would come under our rubric of "Unusual Methods of Recruitment" - and would be studied in their own right, even if not intensively - and would be asked to permit, where appropriate, the application of their tests to our samples of subordinates.

2.8. Educational Ranking.

When the subordinates have been ranked within their groups on each of the formal criteria (where these are used), on the supervisor's various constructs, on our own categories and on the other indicators of ability, we shall rank them according to education. (Our question at A.1.7.e. to Recruiting Officers becomes relevant here).

It is possible, (but perhaps not likely) that we shall find a wide range of educational achievements between the various subordinates: there may be primary school graduates doing the same work as university men. In such a situation, ranks by education would pose no problem. More probably, however, there will be more homogeneity, with the bulk of the subordinates possessing diplomas from identical levels of education. In this case, a closer scrutiny of the perceived 'quality' of educational achievement becomes necessary. From the Recruiting Officers, we shall derive ranked lists of universities/schools, important subjects of study, important school positions (e.g. head prefect) and extra-curricular activities, (e.g. prowess in sports). Performance in the subjects of study will be ascertained from other records of interviews. We shall also elicit the kinds of trade-offs which Recruiting Officers make between the different qualities: e.g. would a 'Distinction' mathematician from an 'Average' school be preferred over a 'Credit' mathematician from a 'Prestige' school?

From here, we could rank each subordinate on each educational item and test how these ranks correlated with those of performance and ability. (We would need then to correlate ranks on some twenty separate items). Alternatively, we might attempt to construct an index of "quality of educational achievement" and correlate the rankings on that with those on performance and ability. This would require, of course, imputing scores to types of school, subjects studied, achievements in the subjects, important school positions; and then assuming that the total score signified "quality of educational achievement" in the perceptions of the Recruiting Officers. (This latter assumption would be verified, if the range of educational background proved diverse but the range of 'quality' scores

very narrow, for it would indicate that the Recruiting Officers could shrewdly trade a deficiency in one 'quality' against excellence in another).

The correlations between ranks on the educational items and ranks on the items of performance and ability will of course serve as the major test of our hypothesis that using educational qualifications as a primary device to select for employment may be ill-founded.

2.9. Educational Scatter.

One difficulty our study so far will not meet is this. Even if we show that in middle-level administrative functions people with little schooling perform as well as people with much schooling, we will not have shown necessarily that the same would be true in high level administrative functions. It might be the case that in the middle level, people of little schooling are operating at maximum capacity, whereas people of much schooling are operating at well below maximum and have no scope to give more play to their abilities.

In order to explore this point, we shall enquire within our sample organisations whether circumstances have resulted in persons of heterogeneous educational backgrounds being placed at very different levels of an organisation's hierarchy. For instance, did a policy of localising staff in the past lead to people without certain diplomas occupying posts which were normally reserved for diplomates? If such cases are found, we shall investigate how they came about and what was the general experience. If there is a reversion to diplomas, we shall try to discover the reasons in detail.

SUMMARY OF PROCEDURES AND ORGANISATIONS FOR A.1 AND A.2.

Study	Procedure	No. of Organisations Covered.
A.1.	Career Pamphlets	Census of what is available.
A.1.	Newspaper Advertisements	50-60
A.1.	Employment Exchanges	50-60
	Employers:	
A.1.	Application blanks only	40-50
A.1.	Interviews with recruiting officers	20-25
A.1.	Scrutiny of personnel files	5-10
A.2.	Interviews with supervisors and subordinates	10-15
A.2.	New behavioural indicators of performance	3-5
A.1.	Unusual recruitment practices interviews	2-5
A.1.	Small-scale and 'expected' employers interviews	5-10

Note on FINAL STEP in section A.2.4.

The question, "Do you think that other people in your position in this organisation and/or in other organisations would describe their subordinates (colleagues) in these ways?" is concerned with

whether supervisors (or subordinates) are consciously and actually influenced by the way their peers evaluate the performance of others; and

whether the education of their subordinates or peers affects their perceptions of performance.

Eight permutations of response and subsequent findings are now considered.

Response - Positive: "Yes, my colleagues would so describe."

Negative: "No, they would not".

Finding: Positive: Similar supervisors (peers) do tend to categorise similarly.

Negative: Tendencies to idiosyncratic categorisation.

Correlation - Positive: Education correlates with good performance, as perceived by supervisor.

Negative: Education has no relationship with performance, as perceived by supervisor.

1. Response positive: Finding positive: Correlation positive.

   Conclusion: Great conformity in thinking; enhanced possibilities of halo effects from educational qualifications; less likelihood either of genuine enhancement of ability or of screening of ability by education.

2. Response positive: Finding negative: Correlation positive.

   Conclusion: Despite belief in conformity, idiosyncratic approach, possibility of halo effects weakened (but not eliminated); greater likelihood of enhancement of ability or of screening by education.

3. Response positive: Finding positive: Correlation negative.

   Conclusion: Great conformity, but no halo effects by education; effectiveness of education as enhancement or screen of ability brought into question.

4. Response positive: Finding negative: Correlation negative.

   Conclusion: Despite belief in conformity, idiosyncratic approaches, likelihood of independent perceptions greater; likelihood of education as enhancement or screen of ability weakened.

5. Response negative; Finding positive: Correlation positive.

   Conclusion: Unwitting conformity may involve halo effects from education; likelihood of education as enhancement or screen of ability lessened. Alternatively, if conformity reached independently, likelihood of halo effect ambiguous; likelihood of education as enhancement or screen of ability raised.

6. Response negative: Finding negative: Correlation positive.

   Conclusion: Conscious non-conformity and idiosyncracy

of assessments, possibility of halo effects from education seriously weakened; likelihood of education as enhancement or screen of ability increased.

7. Response negative: Finding positive: Correlation negative.

   Conclusion: Unwitting conformity, but no halo effects from education; likelihood of education as enhancement or screen of ability weakened.

8. Response negative: Finding negative: Correlation negative.

   Conclusion: Idiosyncratic, independent assessments seriously weaken likelihood of education as enhancement or screen of ability.

If the Correlation proves truly negative, i.e. education is seen as inversely related to good performance, we shall need to beware a negative halo; i.e. supervisors may persecute those with more education than themselves.

A.3. Qualification Escalation

Note: This study has been accepted in Kenya, Mexico and Sri Lanka.

Through our investigations of the history of the jobs studied in the various organisations, we shall have some notion whether job content has altered and whether the educational qualifications for the job have remained static or have risen, and perhaps why.

We shall attempt to assess the generality of these findings by studying jobs similar in title, stated content and salary level through:

(a) newspaper advertisements at intervals over a period of 20 years;

(b) the archives of employment exchanges and bureaux;

(c) the changing entry requirements of various professional associations.

We shall relate what we find -

to the growth and output of the different levels of the schools/university system, (as recorded by the Ministry of Education and other bodies);

and to the growth in the various sections of the job market (as recorded by government establishment offices and departments concerned with manpower and employment).

Further, we shall attempt to ascertain whether increasing supplies of educated persons show any relationship with variations over time in the differentials in wages between educated and uneducated and between the various levels of educated persons. (Entry points on civil service salary scales will provide the

easiest point of departure. Further information may be available from the private enterprises who offer to assist our research.)

B. How Schools are Affected by Employers and Qualifications

(This study has been accepted in Kenya and Sri Lanka). This phase of the study concerns not merely the education system itself, but also those who use it to further their own or their families' interests. The link with the labour market is our hypothesis that, for most people, the dominant goal of schooling is a decent job. If we are right, two consequences would follow. First, the demand for schooling would be a function of the probability of qualifying for a job. Second, the criteria for qualifying would significantly determine the goals and process of classroom teaching and learning. Underlying both, of course, would be, on the one hand, the perceptions of pupils and their families on what employers were looking for in terms of school performance. On the other hand would be the perceptions of the teachers: what are the demands of the families of their pupils? Perhaps more important, how does their own employer, the school system, judge the quality of their performance?

Our research will ask: does the drive for qualifications have the serious effects we claim? Are there factors which vary the severity of these effects from country to country, area to area and even from school to school?

The Sample

Our resources do not permit us a sample which could claim to be representative of the entire school systems of the two countries in the study. We have therefore to focus on points or aspects which promise to maximise the ratio between effort and illumination.

B.1. In the first place, we need to estimate where the drive for qualifications is at its most acute. Our assumption is that the point occurs at the end of the "open access" span; that is, the point at which selections are made for entrance to secondary schools. In Kenya, this will mean the 'examination' class of the Primary School; in Sri Lanka, the final class of the Junior Secondary School. The pupils, their families and the educators involved with these groups will be our main focus.

B.2. Less intensive attention will be given to the classes preceding the 'examination' class, and will be confined to observations in the classroom and perhaps to some interviews with teachers.

B.3. Additionally, children who should be in the 'examination' class, but who have dropped out of school, will have their scholastic careers traced and will, if possible, be contacted for interview, along with their parents and former teachers.

B.4. The question of which schools and communities will be studied is partly determined by the number we can manage. We estimate only nine (plus one for prior practice). Within that constraint, we shall attempt to cover aspects which might be hypothesised to affect

the drive for qualifications. Examples are:

a. Rural or urban location;

b. Availability of opportunities for earning good income independently of educational qualifications or heavy emigration of all labour;

c. Availability of good employment even for primary school graduates or heavy emigration of educated labour;

d. High or low success of schools in gaining secondary places.

Final choices can be made only after fuller acquaintance with the economic and educational systems of Kenya and Sri Lanka.

Procedures

B.5. Up to one month will be spent in training research personnel in how to observe class-room behaviour and in conducting and recording open-ended interviews. One community will be asked to help in this exercise, (but we recognise that we may not be able to incorporate it fully into our findings). Thereafter, three teams of two persons each, (one male, one female), will go to the communities selected.

The research teams will spend a period of six weeks in each community. However, if the period were taken as one unit, it would pose a serious methodological problem. Formal examinations occur once every year, (in December in both our countries). Although the demand for schooling may remain constant, the qualification or exam orientation of the schools will almost certainly depend partly on the imminence of the examination. Consequently while we plan to measure exam orientation between schools, we need to prevent our results from being confounded by variation in exam orientation within schools.

B.6. Therefore, each team will first spend four weeks in each of three communities, so that nine communities will initially be studied in a series of simultaneous sets of three over a period of some four months.

Thereafter, the three teams will meet for a week to decide the final form and wording of questionnaires to be plied to "examination" class pupils, parents and teachers, (see below).

Finally, the three teams will return to their communities -- in the original order -- for a period of two weeks.

B.7. We intend to utilise three modes of observation: sitting-in and watching what happens in classrooms, interviewing in an informal and wide-ranging way, and interviewing by questionnaire. The four-week period

of study will be devoted to prolonged class-room observation and discursive interviews with pupils, parents, teachers, administrators, dropouts and opinion leaders. In this way, the research teams will be able to detect the main outlines of opinion, to establish the vocabulary of discourse on educational matters in the communities, and to isolate the specific problems which require quantitative attitude measurement. They will also, of course, have the time to observe class-room behaviour in depth over a substantial period.

B.8. On these bases, formal questionnaires will be drawn up for the groups involved with "examination" classes; while the techniques of class-room observation will, if necessary, be refined. The two-week period of study will be expended on further class-room observation and on a "questionnaire-census" of the "examination" classes, and their associated families and educators.

B.9. It can be guessed that each community will yield perhaps 20-30 pupils, 40-60 parents or close relatives and up to 10 teachers; so that the total "quantified" sample will comprise 180-270 pupils, 360-540 parents and up to 90 teachers. There will in addition be a few administrators and inspectors.

B.10. The measures

The following is a list of possible behaviours to be observed inside the classroom and used as measures of the exam oriented character of teaching and learning.

(a) Teacher:

1. (a) appeals to examinations by teacher as threat or legitimiser.

   (b) use of past school successes as encouragement e.g. numbers in university, eminent jobs, etc.;

2. use by teacher of exam crammer as substitute for and/or as a supplement to other texts;

3. use by teacher of former exam questions as practice examples in class and for homework;

4. frequency and nature of mock tests;

5. practice in specific exam techniques;

6. actual teaching practice vs. manual recommendations;

7. attention paid by teacher to specific groups (e.g. the repeating element, the children likely to pass the exam);

8. recognition/recall style of lessons, vs. problem solving style.

(b) Pupil:

1. pupil questions teacher on syllabus/deviation

and/or exam relevance;

2. use during lesson of exam crammers.

(c) General:

1. comparison of actual timetable vs. official school timetable;

2. attendance of pupils - identify frequent absentees and follow up.

B.11. The following aspects of schools, pupils and teachers will also be used as measures of exam orientation and will be obtained from school records and interviews with teachers and pupils.

(a) Headmaster/Teacher.

1. are extra classes arranged for exam classes?

2. are specific lessons on exam techniques arranged?

3. are exam crammers provided by the school for the teacher? If not, has the teacher bought an up-to-date crammer?

4. do physical resources tend to be channelled to exam classes?

5. does the timetable change as the exam approaches?

6. do teachers give private lessons?

(b) Pupils.

1. how many pupils have invested in up-to-date crammers? Are they bought only by those children who buy many books anyway and/or are they sometimes the only book bought by many children?

2. how many pupils supplement class lessons by private tuition?

(c) School records.

1. characteristics of teachers allocated to exam classes (age, experience, qualifications, etc.)

2. does headmaster's log contain reference to exams? If so, what are they?

3. staff meeting minutes and references to exams.

4. parent-teacher meeting minutes and references to exams.

5. drop out from previous year.

6. repeater information.

7. exam success ratios over past 5 years; level of scores; records of known secondary/university entrants.

B.12. All other data will be obtained from pupil/parent/teacher/headmaster interviews.

Parents:

(a) demand - how many children? How much education would you like your child to have? Why? How far do you expect that he will really go? Why? If some children have dropped out of the system, why? If some not sent at all, why?

(b) purposes of education - if you had to explain to other parents why they should send their child to school, what would you tell them? What are the biggest advantages of sending your child to school? Follow up all points made, in particular any references to the perceptions of opportunities for self and wage employment. Would you be disappointed if your son/daughter became .....? Would you feel your money had been wasted?

(c) attitude to the local school. How do you feel about local school? Is it a good school? Why? How do you feel about the teachers? Would you rather send your child to another school? Are there any things about the school that you would like to see changed? Curriculum relevance - usefulness in later life/useful for passing exams?

(d) aspirations for child. What would you like to see your child doing when he is, say, 20? Will school help him to get a better job? What do you expect he really will do? Will school be helpful for that? What sort of life does the locality offer? Can people find decent employment? What sort of employment should an educated person avoid? What sort of employer should an educated person avoid? What do you think employers are looking for? What is most important to them?

(e) perceived ingredients of success. Last year 60% (e.g.) of the exam class at local school failed. Why do you think some failed? Why did some succeed? Did you know any children in last year's class? Did he/they pass or fail? Why? Did you have a child in last year's exam class? Did he/she pass/fail? Why? Do you think that the same numbers will pass/fail this year? Why? Do you know any children sitting exams this year? Will they pass/fail? Is your child sitting the exam this year? Will he/she pass/fail? Why? Perceptions of teacher and pupils attributions of success and failure. Ideas about alternative selection procedures. If, at the end of school, no exam, no diplomas, would school be useful?

(f) parents and school history. Did you go to school? Why? How long? Was it worthwhile? How has it helped you? How have schools changed? Follow up.

(g) biodata.

Teachers:

(a) purpose of education. If you had to explain to a parent why he/she should send their child to school, what would you tell him/her? Follow up all points made. Probe perceived relationship between school and employment market.

(b) perceived ingredients of success. Past and future attributions of success/failure of general and specific children. Perception of parents and pupil attributions of success and failure. See above Parents (c). Also ideas about alternative selectio procedures.

(c) exam orientation - some schools seem to put a lot of emphasis on examinations and others not so much. Why is this so? If schools gave no exams, no diplomas, would you welcome? Why?

(d) definition of a good teacher. What makes a good teacher? If you were changing jobs what would you tell the school interview board about your past history as a teacher?

(e) teacher and school history. Did you go to school? How long? Was it worthwhile? Has it helped you? How have schools changed? Follow up.

(f) follow up observed behaviours in Section B.10.

(g) section B.11. questions and follow up.

(h) biodata.

Headmasters:

(a) purpose of education - see above Teachers (a)

(b) careers of last year's graduates.

(c) expectations for this year's graduates.

(d) perceived ingredients of success. Last year's class. In general why? If head refers to specifi children probe. This year's predicted success/fail rate. Why? Again if he mentions specific childre why? School's rank in district/province - by what criteria? Perceptions of parent/teacher/pupil attributions of success/failure. Also ideas about alternative selection procedures.

(e) definition of good teacher. If head could choose own teachers, what would he look for? Qualifications of teachers and distribution to classes.

(f) head and school history - see Teachers (e)

(g) policy on repeaters. Why? How many? Trends?

(h) timetabling. How does he go about deciding on frequency of subject periods?

(i) section B.11. questions and follow up.

(j) bio data.

(k) if school gave no exams, no diplomas, no references, what use would it be?

Pupils.

(a) educational aspirations and expectations. Why?

(b) occupational aspirations and expectations. Why?

(c) purposes of education. If you had to explain to a foreigner (or local word) why children go to school what would you tell them? Follow up. Have parents ever explained why you should stay in school? Other relatives? Do you and your friends ever grumble about school? If so, why do you stay on?

(d) perceived ingredients of success. If possible elicit responses for all six cells of past/ future/ x general/specific/very specific matrix. Also perceptions of parent/teacher attribution of success. Ideas about alternative selection procedures.

(e) perception of a good teacher?

(f) repeating of others and self.

(g) follow up of observed behaviour in Section B.10.

(h) biodata.

Inspectorate.

(a) purpose of education. If schools gave no diplomas or references, what would happen.

(b) careers of graduates after Standard 7.

(c) drop out.

(d) repeaters.

(e) perceived ingredients of success and alternative selected procedures.

(f) definition of a good teacher/school. In promotion procedures, what is given most weight?

(g) school history and changes?

B.13. Socioeconomic Nature of the Area.

In order both to set a community in a wider background and to provide comparisons with other communities, and with the country at large, the following data for the district or province of each community studied will be obtained from whatever sources are available (we shall not attempt to generate them ourselves).

a. Population density.

b. Life expectancy.

c. Infant mortality rates.

d. Per capita annual income.

e. Nature of major sectors of employment (self, wages, salary).

f. Levels of (family) income within sectors of employment.

g. Range and means of farm-land holdings.

h. Emigration/Immigration flows.

i. Nearest large (10,000+) urban centre.

j. Communications: post-offices per 100,000 population
radio sets .. .. ..
bus services per week to main urban or market centres
railway services
air services

k. Rate of literacy (as measured by national census)

l. Per 100,000 population: primary and secondary schools and teachers.
extension service agents.
health/medical centres.
households with access to piped water.

C. Possibilities of Replacing Educational Qualifications as Criteria for Recruitment and the Determination of Salary Levels.

If we assume that we can show that the reliance on educational qualifications (expressed in scholastic achievement-test selection) to recruit employees is both uncertainly founded and, into the bargain, mischievous in its effects on schooling, we have to question the function of the schools in sorting and grading people. There are two aspects to this issue. On the one hand is assessment for the purposes of the student: what progress is he making, what are his strengths, his weaknesses, where might he most effectively and satisfyingly direct his energies - all the points,in fact, which come under 'Guidance and Counselling'. On the other hand is assessment for the purposes of others: the further school system, the labour market. The two can function independently. Here we are immediately concerned with the second aspect. In this part of our effort we are essentially asking the question "If scholastic achievement tests and qualifications were abolished, how could employers set about recruiting personnel from whom qualifications were once required?"

Whereas research on the labour market and on the effects of qualification orientation will be successive phases of pre-planned activity, this section of the project can be only partly pre-planned. It will depend on drawing inferences from other parts of the project, on seeking out relevant research and experiments in each of the countries under study, and on drawing from reports from other countries and organisations.

C.1. For each alternative to scholastic achievement-test selection which we analyse, several questions must be asked:

Is it technically feasible?

Is it likely to be acceptable to employers as a means of identifying the recruits whom they want? Employers should not reject a new selection criterion and insist on starting their own achievement tests (i.e. the situation which the present structure of school leaving certificates was partly designed to avoid)

Is it likely to be perceived as "fair"?

What effect might it have on the process of assessment within schools and universities? Might it affect motivations to learn and to teach, or even to enrol in schools?

What interest groups (within the educational system, as well as in the wider society), are likely to be affected by it? And what distortions of the educational system might their pursuit of self-interest bring about (eg. resort to study abroad to gain internationally-recognised qualifications, development of private "coaching" schools

claiming to improve aptitude test performance, etc.)?

Conclusions on these matters will inevitably remain inferential - from our interviews with the major parties involved - but our research task is to maximize available evidence so that these inferences can be as convincing as possible. Investigation of the following possible alternatives to achievement-test selection is envisaged.

C.2. Aptitude tests.

A certain amount of literature exists on problems of adapting western techniques of aptitude testing to rural environments in developing countries. There is a good deal more evidence, however, available in unwritten-up piecemeal experiments in different countries, which should be collected together and analysed. Adaptation in this context includes not merely technical suitability and consistency, but also administrative and social costs and benefits in societies which have only scarce and inadequately-trained manpower, unreliable systems of record-keeping, relatively-higher levels of official corruption, etc.

C.3. Encapsulated achievement tests.

The best example of this alternative is from Sri Lanka, where the Ceylon Institute of Chartered Accountants has recently embarked on a new method of selection of candidates for articling. After a special 3-week course in matters relating to accountancy, candidates sit for an examination which determines who is to be accepted for articles. Elements of aptitude tests are thus combined with achievement tests, with no backwash effects on the secondary school curriculum. Once again, we hope to evaluate this experiment, as well as other similar ones which we can identify.

C.4. Quota systems.

In school systems which use this method, each primary school can send only a fixed quota of students on to secondary level. Such a selection method obviously alters the terms of competition in ways which might considerably affect backwash. We know of no examples of quotas being used deliberately to reduce backwash, except, in modified form, in the West Riding of Yorkshire in England. It is quite possible, however, that since the Yorkshire experiment is reasonably well-known, there are examples to be studied in the developing world. In any case, there are examples of quotas being used for the purpose of achieving regional and/or ethnic balance. We plan to investigate these procedures.

C.5. Discontinuous progression.

A possible alternative to achievement-test selection is to stop all schooling at the end of the "open access" span, and to require everyone to enter some form of employ-

ment for a specified period of years. Full-time education may be resumed thereafter subject to criteria which the society determines. An important example of a society which uses this method is China. No one concerned with the rationale of using achievement-test selection and its consequences in developing countries can afford to ignore evidence from the country which was first in the world to use this device (a millenium and a half ahead of Europe) and which has also been the first to abandon it. In China today, selection for further education is largely done by peers within production organisations with a view towards training people to fill specific roles in those organisations later.

China has already been using this method for 4-5 years, and therefore we expect that there is ample material on which to judge its viability. Evidence from a separate component of this programme of research will be adduced, and evaluated for wider applicability in the light of our findings in Kenya, Mexico and Sri Lanka.

Procedures.

C.6. Within the three countries of our study, the researchers will endeavour - through the Ministries of Education, universities, units for personnel assessment and selection - to trace research and experiments in possible alternatives to achievement tests and examinations. They will, as far as proves possible, evaluate the factors which appear to contribute to acceptance or rejection, success or failure.

C.7. Additionally, the coordinating staff in Sussex will gather relevant reports from other governments, international organisations, universities, centres for research and development in educational assessment and aptitude identification; in order to provide a fuller picture of the possibilities in this area and inferentially to evaluate their workability in various social and economic scenarios.

D. Possibilities for Mitigating the Effects of the Drive for Qualifications in Schools.

We recognise that, however persuasive our overall research we are unlikely to convince many governments of the need for wholesale restructuring. This part of the research, therefore, will be done on the assumption that the framework of existing selection practices will persist. It will consist of an assessment of ways in which the more undesirable effects of qualification orientation can be mitigated. Clues as to what reforms might be possible will be gleaned from an examination of the following areas.

D.1. Careers guidance.

We know of several experiments in which the goal is to modify expectations concerning employment, either through careers guidance in schools or through information distributed in adult education programmes. We plan to evaluate these programmes and, if possible, to discover more.

Further, in order to compare the perceptions of the rural community with the actual situation regarding education and employment, we will attempt to determine in each country the current probabilities of people with different educational qualifications (and, if possible, with different socio-economic backgrounds) securing different levels of jobs. How knowledgeable are rural populations about current job and education realities? Significant divergences between perception and reality would, of course, argue for measures to increase the flow of information to teachers, parents, and students.

D.2. Practical and Other Subjects.

There seems to be little doubt that concentration on coaching for examinations, given the prevailing techniques of examination, devalues the importance or at least reduces the relevance of practical studies. It may also undermine attempts to introduce wider curricula and new approaches to learning. Nevertheless, there must be some ways of resisting such devaluation. Important variables here are likely to be the skills and attitudes of teachers, the design of the curriculum itself, the supporting ideology and the level of endowment with equipment and material.

We propose to study this topic in four ways:

a) Observations in the class-rooms and schools of the nine communities studied. It is possible that, despite broad evidence of distortion through qualification orientation, there will be exceptional schools or exceptional teachers who see their responsibilities more broadly and who refuse to be wholly constricted by examinations. We shall try to elucidate what makes them different, and what factors aid or constrain

their efforts.

b) Investigations of previous and current attempts to establish practical studies or new ways of learning in the countries studied by interviews and documentary search.

c) Documentary search from Sussex for histories and evaluations of similar attempts elsewhere.

d) A special examination of the process of conceiving, designing and implementing general science/science-based vocational courses in Malaysia and Sri Lanka. Like the study of China, this examination will be a separate component in our programme, but its findings will feed into the area considered here.

D.3. New Methods of Testing Achievements.

It is possible that new forms of tests for achievement in a wider variety of subjects are being developed, both in the countries under study and elsewhere. In England, for instance, students of pottery are permitted a weight and volume allowance for submitting their works for central assessment. Are similar, if intermediate, measures being devised, say, for projects in agriculture or bee-keeping?

As with the other studies, our field researchers will keep their eyes and ears open, while the coordinating office will scour the relevant literature for the rest of the world.

Schematic Summary

It may be helpful to set out briefly what we have undertaken. To this end a schematic summary is offered of the studies, sources, division of labour and time required.

Studies and Sources	Number of Researchers	Kenya	Mexico	Sri Lanka	I.D.S. Sussex (two researchers)
A.1. Recruiting Practices (pp.15-18)	2 per country				
Careers Pamphlets		x	x	x	
News, Advertisements		x	x	x	
Employment Exchange		x	x	x	
Job descriptions					
'Unusual' Employers		x	x	x	
Small & 'Expected' Employers		x	x	x	
Bibliography					x
Application Blanks		x	x	x	
Recruiting Officers Intvw.		x	x	x	
Personnel Files		x	x	x	
A.2. Job Performance (pp.18-23)	2 per country				
Long-term employees interview		x	x	x	
Supervisors interview		x	x	x	
Peers interview		x	x	x	
Aptitude/IQ tests		x	x	x	
Bibliography					x
A.3. Qualification Escalation (pp. 27-28)	2 per country				
Long-term employees on job-content change		x	x	x	
News, Advertisements over 20 years max.		x	x	x	
Employment Exchange Archives over 20 years max.		x	x	x	
Bibliography					x
Total Time: One year per country, including reports.					
B. Effects on Schooling (pp.29-36)	7 per country				
Classroom observations		x		x	
a. Interviews Students		x		x	
Parents		x		x	
b Questionnaires Teachers		x		x	
Administrators		x		x	
Bibliography					x
C. Alternatives for Selection (pp. 31-39)					
Literature Search		x	x	x	x
Interviews/Observation		x	x	x	x
D. Mitigators (pp. 40-41)					
Literature Search		x	x	x	x
Interviews/Observations		x		x	
Total Time: Two years per country. inc. reports and synthesis.					

RELEVANCE TO POLICY.

It is hardly necessary to spell out in detail the relevance of this research to policy. Even if we succeed only in documenting in detail the situation which is assumed to exist, the research will be useful in focusing attention on some aspects of educational systems which are often neglected by policy-makers. More specifically, the value of the research seems to us to lie in three areas.

1) Pointing-up the possibility of incremental change within existing educational systems. Into this category fall such topics as types of vocational studies, curriculum design, teacher evaluation systems, and better reality perceptions among students as to their futures. In addition, insofar as we can clarify ramifying consequences for schools of wide income differentials, in developing countries, we shall have strengthened the pressure for narrowing them.

2) Directing attention towards the possibility of more basic changes. We clearly start off as partisans for a particular type of structural reform, both within the educational system and in the pattern of occupational recruitment and training. If our diagnosis is confirmed, the case for these reforms will be strengthened.

3) Exploration of specific policy alternatives. How can pre-career qualification and achievement-test selection be modified? How might education be better integrated into a national strategy of economic growth and redistribution? The adoption of any policy suggestions which we might make will obviously depend on the objectives of individual countries and the extent of the tradeoff between these objectives and educational reform. We will try to clarify these trade-offs and to suggest how policy changes can be devised which will take account of existing political interest groups and social pressures.

QUALIFICATION AND SELECTION IN EDUCATIONAL SYSTEMS - AN ANNOTATED BIBLIOGRAPHY.

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QUALIFICATION AND SELECTION IN EDUCATIONAL SYSTEMS - AN ANNOTATED BIBLIOGRAPHY.

A. Education, Economic Development and Employment.

Blaug, M. 'The Correlation between education and earnings: what does it signify?'

Higher Education Vol. 1 No.1 February 1972.

Examines three alternative explanations of the empirical observation that for 30 countries studied, amounts of education and personal earnings are positively correlated. The 'economic' explanation argues that better-educated people earn more because education imparts vocationally useful skills that are in scarce supply. The 'sociological' explanation is that they do so either because length of schooling is itself correlated with social class origins or because education develops prized social values, and the 'psychological' explanation contends that education merely selects people in accordance with their native abilities. It is concluded that a proper appreciation of the economic explanation assimilates both the sociological and psychological.

Blaug, M. Education and the employment problem in developing countries.

I.L.O. 1973.

Discusses the nature and extent of the employment problem and evaluates traditional and radical solutions to educated unemployment.

Bowen, W.G. 'Assessing the economic contribution of education. An appraisal of alternative approaches'. Higher Education.

Report of the Committee under the chairmanship of Lord Robbins 1961-63, London, HMSO 1963, Appendix IV pp. 73-96.

Distinguishes four main approaches. (i) the simple correlation approach, i.e. a correlation of some index of educational activity with some index of economic activity. Inter-country, inter-temporal, inter-industry and inter-firm analyses are all used. (ii) the residual approach, i.e. the attribution of all or most unexplained increases in output to education. (iii) the direct return-to-education approach, i.e. the measurement of private and social benefits which result from marginal increases in education. (iv) the forecasting-manpower-needs approach.

Bowman, M.J. The human investment revolution in economic thought'.

Sociology of Education, Vol. 39, 1966. pp. 111-38.

A survey of the early 1960's literature on education as investment.

Carnoy, M. 'Rates of return to schooling in Latin America'.

Journal of Human Resources Vol. 2 No.3 pp. 359-74. Summer 1967.

Estimates of the rate of return to different levels of schooling are made for Mexico and compared with rates for Chile, Colombia and Venezuela. Private and social rates in Mexico are high for both primary and university education but decrease for secondary.

Court, D. & Ghai D. (eds.) Education, Society and Development New perspectives from Kenya, O.U.P. 1974.

Draws together a number of research articles which contribute to an understanding of the emerging pattern of development in Kenya. The discussions revolve around the issues of training and employment, the structure and culture of Kenyan education, equality and alternatives.

Denison, E.F. 'The sources of economic growth in the United States and the alternatives before us.' Supplementary Paper No. 13, Committee for Economic Development, New York.

Quantifies the contribution of formal education to economic growth using an aggregate production-function model of the U.S. economy. Falls under Bowen's 'residual' approach (see above)

Diejomaoh, V.P. and Orimalade, W.A.T. 'Unemployment in Nigeria. An economic analysis of scope, trends and policy issues.'

Nigerian Journal of Economic and Social Studies, July 1971, Vol. 13, No.2.

Attributes part of the unemployment problem to the rapid expansion of primary education. The authors warn that insufficient attention is being paid to the relationship between the supply of primary school leavers and the demand for them by the economy.

Edwards, E.O. and Todaro, H.P. 'Education and society in developing nations: conceptual relationships and emerging opportunities.' in Investment in Education: National strategy options for developing countries. International Bank for Reconstruction and Development October 1973.

Educational systems are now regarded less as 'engines of development' and more as institutions which respond with varying degrees of internal effectiveness to the demands placed on them by the societies in which they function. A restructuring of the educational system alone without more fundamental changes in the wider economic, social and political context has little chance of success in meeting genuine development needs.

Farrell, J. in 'Review Symposium: Jencks and inequality'. Comparative Education Review Vol.18 No.3 October 1974.

Presents four major objections to the generalizability of Jencks conclusions (C.Jencks. 'Inequality' 1972 Basic Books) to the situation in developing countries. (i) the Jencks analysis focused on problems of unequal educational outputs in a society where virtually all students receive at least nine to ten years of formal education. In developing countries many still receive no formal education. (ii) school related variables e.g. resources vary much more in developing countries than in developed and therefore have the potential to explain much more of the variance. (iii) reanalysis of the original Coleman data indicated that the strongest relationships between educational resources and cognitive outcomes occur among Negroes in Southern U.S. schools. It is possible that schools do have a significant effect up to a certain level. (iv) a number of variables which might prove significant in the developing country situation are obviously excluded in Jencks work e.g. nutrition, language policy, ease of transportation.

Haller, T.E. Education and rural development in Colombia unpublished Ph.D. thesis, Purdue 1972.

Analyses the way in which schooling contributes to farm family income. Calculates private and social rates of return for four different regions in rural Colombia and found that rates were high and significant only in the one region where there was a high rate of agricultural change.

Harbison, F.H. and Myers, C.A. Education, Manpower and Economic growth. McGraw-Hill, 1964.

A cross sectional correlational study of primary, secondary and tertiary enrolment rates, the 'composite index of human resource development' and G.N.P. per capita. From this data the authors attempt to demonstrate the causal influence of education on economic growth.

Hinchliffe, K. 'A comparative analysis of educational development in Ghana and the Western Region of Nigeria'. Nigerian Journal of Social and Economic Studies. March 1970.

Comparisons include rates of return to different levels of education, enrolments, cost and expenditure. Rate of development has been much more intense in Ghana. Although rates of return are consistently better in the western region of Nigeria than in Ghana the return for less than sixth form level in both countries is relatively modest.

Hoerr, O.D. Education, Income and Equity in Malaysia. Centre for International affairs. Harvard University. Cambridge, Mass. Economic development report No. 176, June 1970.

The structure of rates of return to education differs between urban dwellers who are mainly Chinese and of rural dwellers, mainly Malays. Malays not only receive less education but also markedly inferior returns on equivalent years of schooling. The study concludes that Malaysia is, or soon will be, over-investing in post-primary education from the standpoint of maximising returns on total public investment, but that potential distributional gains and other social benefits justify at least part of the 'over-investment'.

Huffman, W. The contribution of education and extension to differential rates of change. Unpublished Ph.D.thesis Chicago 1972

Attempts to measure the contribution of education to agricultural innovation. Using data from 122 countries in the U.S. finds that farmers with more education are aware of a wider range of information and benefit more from extension services.

International Labour Organisation: Matching Employment Opportunities and expectations: A programme of action for Ceylon. Report and technical papers. Geneva, 1971.

The major points of imbalance between the educational and employment systems are (i) the gap between job expectations and actual job opportunities and (ii) the irrelevance of acquired knowledge for the jobs school leavers take up. Reform proposals

included a shift in curriculum emphasis to vocational knowledge, changes in selection procedures and recurrent education.

International Labour Organisation: Employment, incomes and equality: a strategy for increasing productive employment in Kenya, Geneva, 1972.

Three types of problem are tackled by this report (i) the frustration of job seekers unable to obtain the type of work or remuneration which they or their education has led them to expect. (ii) the very low incomes of many in self or wage employment and (iii) the underutilisation and low productivity of the labour force, reflecting inefficiency in the way labour is trained and deployed. The reform proposals include changes in selection procedures, curriculum revision in favour of terminal pupils, community service as an integral part of the educational career and the creation of a series of second-chance institutions for drop-outs and adults.

Jolly, A.R. 'The Judo Trick' in F. Champion Ward (ed.) The Bellagio Conference papers. Praeger, New York 1974.

Quantitative educational change in the Third World in the 1960's has been very great - yet much of this change has been in the wrong direction. The judo trick consists in identifying the crucial points of balance in the relationships between the formal education and job market systems, and in exerting new forces at these points, thus changing the direction of development. Key points are (i) the system of selection at entry to the school (ii) the system of selection and examination within the school system(iii) the system of selection for jobs and (iv) the structure of earnings and other incomes. The author makes the plea for 'less concern with what to do in education and more experiments and research on how to do it.'

Jolly, A.R. 'The contribution of education to economic growth'. International commission on the development of education. Unesco Series B. Opinions No.19

The relationship between education and economic growth is extremely complicated. The Human Capital theory aggregative studies in the 1960's directed attention away from the more fundamental issues of growing unemployment and increasing inequality.

Jolly, A.R. (ed.) Education in Africa: Research and Action. Nairobi, East Africa Publishing House, 1969.

Contains a series of interesting articles of relevance to education policy in Africa. The range of topics includes a

review of African education since the Addis Ababa conference, a statistical analysis of enrolments and costs, implementation of Education for Self Reliance in Tanzania, Harambee schools in Kenya, occupational attitudes of school leavers in Uganda, rural and adult education, Islamic education, educational publishing, psychological aspects of research in education and curriculum reform.

Kinyanjui, P.K. 'Education, Training and Employment of Secondary School Leavers in Kenya.' Manpower and Unemployment Research in Africa vol.6 No.2 November, 1973.

A survey of which kinds of secondary school products gain employment with which employers.

Nyerere, J.K. 'Education and Liberation'. Development Dialogue 1974 (No.2.)

A realistic appraisal of the current status of education in Tanzania. Aspects which call for change are identified.

Okedara, J.T. 'The determinants of unemployment among primary and secondary school graduates in Ibadan, Nigeria.' Paper presented to Conference on Urban Unemployment in Africa. Institute of Development Studies, Sussex, U.K. September 1971.

The changing structure of labour supply and demand has received little analytical treatment in the literature dealing with the unemployment problem. Data are presented to support the hypothesis that level of education and type of training are major determinants of the rate at which graduated youth are absorbed into the modern economic sector.

Peil, M. 'Ghanaian Middle School leavers: a follow-up study'. Manpower and Unemployment Research in Africa, Vol.3 No. 2 November 1970.

Data was obtained from middle schools on the location and occupation of students six or eighteen months after leaving school in 1964 or 1965. About a quarter of those leaving middle school were able to continue their education, a further third of the rest found work within six months of leaving school while the remainder spent many months searching for employment of any kind.

Rado, E. R. 'The relevance of education for employment.'

Journal of Modern African Studies.Vol.10 pt. 3. 1972.

Also in Education, Society and Development (eds.) D.Court &

D.Ghai (see above)

The economic expectations of the development potential of education in the 1960's are unfulfilled and the understanding of the connection between education and development is "almost as tenuous as it was a decade ago".

Schiefelbein, E. 'The Impact of input-output educational

research on developing countries' in Investment in Education:

National strategy options for developing countries. IBRD Oct.1973

Jenck's conclusions about education and inequality cannot be generalised to developing countries for many reasons. In developing countries, an important percentage of children have no schooling at all, research in some developing countries shows that school variables do affect educational achievement, and that many potentially important variables have been excluded from the Jenck's model if it is to apply to the developing country situation.

Schultz, T.W. The Economic value of education. New York,

Columbia University Press, 1963. Also see Schultz T.W. 'Investment

in human capital' American Economic Review Vol. 51 (1961)pp.1-17.

Presents the Human Capital Theory of economic growth. Explains the observed discrepancies between output and the input factors of land, man-hours and physical capital in terms of human capital, the knowledge and skills acquired by people which are of productive use.

Simmons, J. Investment in Education: National strategy options

for developing countries. IBRD. October 1973.

Outlines three theories which attempt to describe the effect of education on individuals and on the economy and the interaction between them. (i) human capital theory - investment in human capital increases labour's contribution to productivity by imparting cognitive skills and knowledge. (ii) progressive theory - schools produce not only cognitive skills but also non-cognitive skills, skills that discourage individual growth and creativity. There is no necessary functional relationship between schools and the structure of the economy. (iii) structural theory - the primary role of education is to produce a work force, not to develop individual capacities to their fullest potential. The social relations of the school mirror the social relations of work.

Swantz, M.L. 'Youth & Development in the coast region of

Tanzania'. Bureau of Resource assessment and Land use

planning. University of Dar es Salaam, Research Report

No.6 Jan. 1974

Evaluation of employment opportunities in villages for both educated and non-educated youth. Development planning must go beyond the building of educational centres and provide practical assistance, money and equipment for the setting up of new employment opportunities. Cooperative youth projects seem appropriate.

Vanniasingham, S. 'The Educational Recommendations of the

Dudley Seers I.L.O. Mission' in Lectures on Education and

Job Expectations of youth. Marga Institute Sri Lanka June 1973.

Argues that the reforms suggested for the 'matching of employment opportunities and expectations' convey an impression that the only lack of balance is structural in nature. To approach the problem from this angle is to ignore the 'real malady' which is a serious economic imbalance which if solved will automatically solve the problems of matching opportunities and expectations.

West African Journal of Education Vol. XVII No.1 Feb. 1973.

Contains a series of interesting articles on education and employment in Nigeria, Ghana, Uganda and Liberia.

B. Education, Job Performance, Earnings and Training.

Anderson, H.E., Roush, S.L., & McClay, J.E. 'Relationships among ratings, production, efficiency and the GATB scales in an industrial setting.' J.Applied Psych. 1973 (Aug) Vol. 58 (1) pp.77-82.

Found only low negative correlations between aptitude test results, supervisor and efficiency ratings for the job performance of coil winders.

Berg, I. Education and Jobs. The great training robbery.

London, Penguin 1970.

Presents data from a variety of work situations which question the assumed positive relationships between educational achievement and worker performance. Suggests that employers use educational qualifications as a screening device.

Bhati, U.N. 'Economic determinants of income in irrigated paddy farms in Tanjong Karan, West Malaysia.' Ph.D. Thesis 1972, A.N.U. quoted in ECAFE Report 1973 p. 193.

Found positive correlations between measures of productivity and technical knowledge. Technical knowledge was measured by answers to a number of questions about aspects of production but it is not clear whether knowledge acquired through formal or informal learning.

Blaug, M., Preston, M. and Ziderman, A. The Utilization of Educated Manpower in Industry. A preliminary report. London. Oliver and Boyd 1967.

An attempt to estimate optional educational requirements for specific occupations.

Carnoy, M. Schooling, Income, The Distribution of Incomes and Unemployment. A critical appraisal. Paris OECD. Mineo 1974.

Higher earnings associated with more schooling are not necessarily dependent on skills acquired in school. Calls for caution in interpreting the negative correlations between schooling and productivity in the work of Berg (1970) and Fuller (1972). They are looking only at within occupation comparisons. Productivity comparisons between occupations are almost impossible, except in money terms.

Chaudhri, D.P. Education and Agricultural Productivity in India. Unpublished Ph.D. thesis Delhi 1968. See also Chaudhri D.P. 'Rural education and agricultural development - some empiriral results from Indian agriculture' in World Year Book of Education 1974.

Attempts to measure the contribution of education to agricultural productivity. Data analysed at state, district and household levels. Finds a positive correlation at the first two levels but at the household level, the results are inconclusive.

Das, P.K. 'Manpower implications of employee development in an undertaking'. Manpower Journal April-June 1966 pp.7-18.

Analyses the role of on-the-job training as an ingredient of job performance in India.

Fuller, W.P. 'Evaluating alternative combinations of education and training for job preparation: An example from Indian Industry'. Manpower Journal June 1972.

Using data from two Indian factories, the author attempts to measure the relationships between education and worker productivity. Finds no significant relationships in one factory and only a small positive relationship in the other. Also findsthat, within different levels of general education, workers with on-the-job training (formal and informal) performed better than workers with pre-career industrial training.

Gintis, H. 'Education, Technology and the Characteristics of worker productivity'. American Economic Review May 1971.

Challenges the two common assumptions (i) that the main effect of schooling is to raise the level of cognitive development of students and (ii) that it is this increase which explains the relationship between schooling and earnings. Presents data which suggest the importance of noncognitive personality characteristics which have direct bearings on worker earnings and productivity.

Heijnen, J.D. Development and Education in the Mwanza District (Tanzania). A case study of migration and peasant farming.

Amsterdam: Centre for the study of education in changing societies and the University of Utrecht, 1968.

An attempt to assess the effects of primary education on agricultural development. Found that even eight years of primary

education seemed to have little effect on productivity.

Hinchliffe, K. 'Earnings determinants in the Nigerian Textile Industry'. Comparative Education Review, forthcoming.

Collected a variety of data on textile workers in the Kaduna textile industry. Main conclusions were that variations in age, industrial experience and education accounted for a substantial part of earnings variations both within work categories and between firms. Years of experience in a firm appeared to be the overall most important single determinant of earnings variation and was generally a satisfactory substitute for primary schooling as far as industrial productivity was concerned. Primary schooling did not appear to be particularly profitable in purely economic terms.

Wiles, P. 'The correlation between education and earnings. The External-Test-not-Content-hypothesis.' Higher Education. February 1974. pp. 43-57.

Human Capital theory is a 'content' theory of the economic value of a higher education to its recipient or his employer. But why does non-vocational higher education which offers no such content yield a higher income? Five theories are examined. (i) the degree is an external test, vastly expensive to society but very cheap to individual employers. (ii) the degree course forms character which is a kind of human capital (iii) the degree course exercises the mind and develops it like a muscle (iv) the degree confers social status (v) insistence on a degree is a restrictive practice by many trade unions.

Wiseman, S. and Start, K.B. 'A follow up of teachers five years after completing their training' British Journal of Educational Psychology. pp. 342-67.

Training college assessments of teachers were compared five years later with headmasters' descriptions of performance. Correlations of 0.28 for grammar and secondary modern school teachers and of 0.07 for primary school teachers were found.

C. Employers' Use of Qualifications.

Arrow, K.J. 'Higher Education as a Filter' Journal of Public Economics 1973 also in K.G.Lumsden (ed.) Efficiency in Universities. The La Paz Papers Elsevier 1974.

Formalises the view that the diploma serves primarily as a measure of performance ability rather than of acquired skills - the screening hypothesis. Performance ability does not necessarily mean intelligence but the ability to produce goods.

Dore, R.P. The scourge of the certificate: Education, qualification and development. Penguin, forthcoming.

A study of the increasing use of educational qualifications in occupational selection in industrial societies, the transfer of these practices to developing societies, and the disastrous consequences which ensue for the quality of education in those societies - together with some modest suggestions as to what can be done and some reflections on the nature of some basic social dilemmas.

Layard, R. and Psacharopoulos, G. 'The Screening Hypothesis and the returns to education' Journal of Political Economy Sept/Oct. 1974.

The screening hypothesis is an alternative to Human Capital theory as an explanation for why more education is correlated with higher earnings. The authors present three pieces of evidence which fail to support the screening hypothesis.

Psacharopoulos, G. 'College Quality as a screening device?' Journal of Human Resources vol. IX No.4 Fall 1974.

Wales (see below) has suggested that the quality rather than quantity of schooling may be the characteristic of the screen in the screening hypothesis. If this is so, then controlling for variables like ability, years of schooling and age, the earnings differentials of persons with the same amount but different quality of schooling would converge rather than diverge over time. This prediction is not met by the data presented.

Richards P.J. 'Job Mobility and unemployment in the Ceylon Urban Labour Market' Oxford Bulletin of Economics and Statistics Vol. 35, 1. 1973 pp. 49-59.

Attempts to explain the paradox of unemployment being the lot of the young and educated in urban Ceylon in terms of employers' preferences for workers who are older with accumulated work experience.

Triandis, H.C. 'Factors affecting employee selection in two cultures' Journal of Applied Psychology 1963. Vol.47(2) pp.89-96.

American and Greek students and personnel directors were asked to compute the relative weights they would give to various characteristics if they were hiring employees for various levels of jobs in the accounting and finance department of a company. American personnel directors gave more weight to race than Greek personnel directors who gave more weight to age. Students in both countries gave larger weights than either group of personnel directors to competence.

Wales, T. 'The effect of college quality on earnings'. Results from the NBER-TH Data. Journal of Human Resources Vol. VIII No. 3 Summer 1973.

Uses Gourman's academic ratings of colleges in an attempt to determine the extent to which the returns to higher education are due to the quality of educational institution. Found that the earnings of those from undergraduate and graduate institutions at the top of the school quality distribution are substantially higher than the earnings of others. However, from the data it was unclear to what extent the quality variable reflects an educational effect as opposed to individual scholastic abilities.

D. Perceptions & Expectations of the Educational and Occupational systems.

Anderson, C.A. et al. Students, Teachers and Opportunity perceptions in Kenya. 1961-68. U.S.Dept. of Health, Education and Welfare.

Follow up survey of fourth form secondary school students. Different ethnic groups perceived the value of education differently. The best predicter of occupational status seven years later was academic achievement on the School Certificate examination.

Bynner, J.M. Parent's Attitudes to Education. Social Survey HMSO 1972.

Data from U.K. demonstrating the strong independent effect of parent's attitudes to education in 1964 on child's achievement in 1968.

Carnoy, M. and Thias, H.H. 'The Rates of return to schooling in Kenya' Eastern African economic review Vol. 3 No.2 Dec. 1971.

1968 data shows that rates of return to investment in schooling are high, although they may be falling rapidly. The great political pressure on the Kenyan government to provide more schools is largely the result of economic perceptions and expectations by the Kenyan people.

Conroy, J.D. 'The private demand for education in New Guinea: Consumption or investment.' Economic record Dec.1970 pp.497-517

Using evidence from personal contact surveys the author supports the hypothesis that investment motives are of primary importance in stimulating demand for education among New Guineans.

Dubbeldam, L.F.B. The primary school and the community in Mwanza district, Tanzania. CSESO. Walters-Noordhoff. Groningen 1970

Reports a basic difference in the attitudes to education of rural and urban parents in 1966. Urban parents more often saw education as a means for acquiring more education and ultimately a wage job. In rural areas farming was still a viable employment alternative and education took on an intrinsic value.

Foster, P. 'The vocational school fallacy in development Planning', in Education and Economic development. C.A. Anderson and M.J.Bowman (eds.) Chicago 1965.

Students regard academic education as vocational in that it gives access to the most desirable occupations, while vocational schools tend to be treated not as terminal points in education but as a further stage to an academic career.

Hicks, R.E. 'Occupational Prestige and its factors - a study of Zambian railway workers'. African Social Research, 1 June 1966

The concept of prestige appeared to be associated with at least the following six factors - good money, responsibility, education and intelligence, service, work conditions and work relationships.

Hinchliffe, K. 'Manpower planning and occupational choice in Nigeria'. West African Journal of Education Vol.XVII No.1 February 1973.

Conventional manpower planning neglects general factors which lie behind occupational choice. Survey of first, second and third year students at a Nigerian university revealed that salary was not always the most important factor in occupational choice. Public firms were the most preferred employers even though the expected salary was lower.

Hinchliffe, K. 'The unprofitability of secondary modern schooling in the Western region of Nigeria' West African Journal of Education. Vol. XIV. pp.180-2.

Calculates a private rate of return of 6% to investment in secondary modern schooling. Argues that this very low rate is the main reason for the growth of unpopularity of the secondary modern school, as measured by decreasing enrolments.

Hutton, C. 'The good life. Attitudes of peasants and school leavers towards agriculture. A report on field work in Uganda, 1965, 1966' Institute of Development Studies, Sussex Conference on Urban Unemployment in Africa, 1971. Also see Hutton, C. Reluctant farmers? A study of unemployment and planned rural development in Uganda. Makerere Institute of Social Research. East African Studies No.33.

The attitudes of farmers involved in two rural development schemes and of school leavers in the neighbouring areas were explored. Education per se seemed not to be the most crucial factor in determining overall attitudes towards agriculture. Attitudes are formed in a wide context of past experience and a realistic appraisal of the means available for achieving the 'good life'. If dissatisfaction with agriculture increases this will not be because of increased numbers of primary school leavers but because the means to the good life remain restricted.

Jayasuriya J.E. 'Some studies of early school leaving in Ceylon' Ceylon Journal of Historical and Social Studies Vol.3. 1960, No.1

Data collected from semi-urban and rural areas suggest that in addition to the more usual factors of low economic condition and family size as determinants of early school leaving, the perceived usefulness of schooling for acquiring a job is also important.

Kayode, M.L. 'A re-examination of the concept and factors influencing productivity, with particular emphasis on motivation'. Nigerian Journal of Economic and Social Studies, March 1970 Vol. 12 No. 1.

Nigerian managers and workers from manufacturing firms ranked factors important to them when choosing a job. For workers, pay, security and interest were the three most important factors whereas for the managers, interest, room for initiative, and opportunity for use of skill were most essential.

King, K. 'Development and Education in the Narok district of Kenya' African Affairs Vol.17 No. 285 Oct. 1972

The Narok district spans the extremes of educational resistance and enthusiasm. The author argues that little change in the educational participation can be expected from the Maasai by further manipulation of the educational

apparatus alone. There is no reason why Maasai parents should patronize educational institutions until the education is shown to have some relevance for them.

Koff, D. 'Education and employment. Perspectives of Kenyan Primary Pupils' in J.R.Sheffield (ed) Education, Employment and Rural Development, 1966.

Survey of primary standard 7 pupils of definitions of purposes of education and patterns of values implicit in choices of occupations.

Mbilinyi, M.J. 'Attitudes, Expectations and the decision to educate in rural Tanzania.' Bureau of Resource Assessment and Land Use Planning. University of Dar es Salaam. Research Report 3/1 Nov. 1973.

Parents' attitudes to the education and role of women were compared with the number of girls enrolled in school. Using a multiple step-wise regression analysis the author indicates that attitude measures had a separate effect on the numbers of girls enrolled in schools. However, whether the expressed attitudes were justifiers or determinants of behaviour remains an open question.

Ministry of Education. Kuala Lumpur, Malaysia. Study of Opinion about Education and Society, 1973.

A study of the correlates of drop out. A strong relationship was found between (i) drop out and poverty (ii) drop out and attitudes towards science, secular education and innovation and (iii) drop out and educational motivation. Methodology questionable.

Mook. J.L. 'Pragmatism and the Primary school - the case of the non rural village' Institute for Development Studies (Nairobi) Discussion Paper No.135.

Anthropological study shows how parent and pupil attitudes towards the school system are rooted in the needs of the community. Parents looked to the school as the only channel through which children could gain employment. However parents' enthusiasm for schooling has had two major effects on the operation of the primary school (i) parents have forced the schools to prepare their children for the examinations and (ii) because of the large number of repeaters in schools, the quality of teaching has declined.

Peil, M. 'Education as an influence on aspirations and expectations.' Conference on urban unemployment in Africa. Institute of Development Studies, University of Sussex, Sept. 1971.

Argues that schools are more a product of their society than a force for changing it. For school leavers the fact of having attended school is in many ways more important than what went on in the classroom. Most people who pass through the educational system perceive education as instrumental in gaining employment.

Peil, M. 'Aspirations and social structure: a West African example'. Africa XXXVII pp. 71-8.

Attempts to show how aspirations of middle school leavers are related to their social environments - to the size of place they live in, to its educational and occupational history and structure, and to the educational and occupational attainments of their parents and siblings. Educational development seems to be the most important factor since inter-regional differences are closely tied to the proportion of the population who have been to school.

Psacharopoulos, G and Hinchliffe, K. Returns to Education: An International Comparison. Elsevier. Studies on Education. Vol.2.

Collection of rate of return evidence from 32 countries. Compares rates of return with other characteristics of the countries involved, such as the brain drain, the distribution of earnings, levels and costs of education, and the ease of substitution among different types of educated labour.

Schools Council Enquiry No.1 Young School Leavers HMSO 1968.

A survey of teacher, parent and pupil views on the objectives of school education in the U.K. 15-year-old school leavers and parents saw the provision of knowledge and skills which would enable young people to obtain as good a job as possible as the main function of school. Teachers however tended to reject the achievement of vocational success as a major objective of education and saw the development of pupil characters and personalities as the main objective.

Silvey, J. 'Unwillingly from school: The occupational attitudes of secondary school leavers in Uganda.' Manpower and Unemployment Research in Africa. Vol.2 No.1 April 1969.

Uganda data supports the argument that students see academic education as the best available vocational education. These results are mirrored in Ghana and the Ivory Coast. The importance of income in determining the attractiveness of different jobs is not confirmed by the data. Students rate personal factors of interest, ability and temperament as more important to consider in job choice.

Somerset, H.C.A. 'Educational aspirations of fourth form pupils in Kenya'. Institute for Development Studies (Nairboi) Discussion Paper No.117 Sept. 1971. Also in D.Court and D.Ghai (1974) op.cit.

The determinants of educational aspirations are investigated. School type and school certificate marks were combined with educational aspirations in various ways but none of the models was adequate. However the nature of careers information in school was added as a further variable and accounted for much of the variance. Pupils who said they had received advice or information had significantly lower aspirations.

Takei, Y., Block, J.C., and Warland, R.H. 'Aspirations and Expectations of West Malaysian youth' Comparative Education Review Vol.17 No.2 June 1973.

Malays indicated higher educational aspirations than Chinese and also believed more in the efficiency of education for achieving 'success'. The authors explain the higher educational aspirations of Malays as being due to differential perceptions of the structural opportunities in Malaysia and to a realistic appraisal by Chinese students of the preferential government treatment of Malays.

Versluis, J. 'Education and Employment: Labour market expectations of secondary and university students in the Lima Metropolitan area'. July 1974 (ongoing) International Labour Organisation.

Secondary school students perceive secondary education as an obstacle to pass before entering university and expect that it will be relatively easy to find work after university. University students are much less optimistic than are secondary school students about the prospects of finding a job after leaving University.

E. Aspects of the Internal Structure of Education.

Beeby, C.E. The Quality of Education in developing countries. Cambridge. Harvard University Press 1966

Primary school educational systems pass through distinct stages of growth, the majority of schools in developing countries being at stage 2 and schools in developed countries between stages 3 and 4. Two main factors determine movement between stages (i) the level of general education of the teachers in the system and (ii) the amount and kind of teacher training that they have received.

Dore, R.P. 'Pre-vocational studies: a comment on recent developments in Ceylonese education' Institute of Development Studies Discussion Paper No.13.

While achievement test examinations remain an integral of the education system and the key to a job then any attempts to introduce pre-vocational studies into the school curriculum will fail. Such studies will either be devalued in importance or will become academic.

Hawes, H.W.R. 'Planning the Primary school curriculum in developing countries.' Fundamentals of educational planning: 17 Paris Unesco-IIEP. 1972.

Many so called curriculum innovations have had little impact because the attitudes and purposes of those who teach, those who learn and of the community into which the pupils will graduate have not changed simultaneously.

King, K. 'Primary schools in Kenya: Some critical constraints on their effectiveness' Institute for Development Studies (Nairobi), Discussion Paper No.130

Because of the worsening employment situation for primary school leavers the demand for secondary education is great. Passing of the Certificate of Primary Education examination, the key to entry, dominates the school curriculum in many ways, e.g. exam question revision books become the 'unofficial syllabus', 'discovery' teaching methods are regarded as a waste of time by students who see no point in proving by experiment the 'facts' they already knew, the timetable for non-examinable subjects suffer, teachers regard themselves as victims of the system, and large numbers of students wish to remain in the system until they pass the exam.

Peil, M. ' 'A' levels and success at University of Ghana '

West African Journal of Education Vol. 14, No.3 October 1970.

Examines the predictive values of 'A' level results for success in final university examinations. Suggests that intelligence and aptitude tests should supplement the selection information. Makes several other shorter term suggestions for improving the 'quality' of student accepted by the University.

Somerset, H.C.A. 'Who goes to secondary school: efficiency, equity and relevance in secondary school selection' Institute for Development Studies (Nairobi) Discussion Paper 84, 1974

The predictive value of the Kenyan certificate of primary education for future attainment is not yet established. Item analysis of the 1970 examination reveals that many items required that specific skills have been learned. The children from high-cost urban schools benefited while pupils of high but under-developed potential from poor schools suffered. The need for the inclusion in the curriculum of skills and knowledge, relevant to the needs of the majority who will eventually work in the informal economic sector is discussed.

F. Alternative forms of Education and Training.

Blaug, M. Education and the employment problem in developing countries. International Labour Office, Geneva

Chapters 4 and 5.

Discusses traditional and radical solutions that have been put forward for dealing with the problem of educated unemployment, open unemployment, under-employment and poverty.

Callaway, A. 'Nigeria's Indigenous education: The Apprentice System.' Journal of African Studies July 1964, pp. 1-18 - also see Callaway A. 'From Traditional crafts to modern industries' Journal of African Studies, July 1965 pp. 28-51.

Provide descriptions of apprenticeship practices in Nigeria.

Court, D. & Ghai,D. Education, Society and Development: New Perspectives from Kenya. O.U.P. 1974.

Contains section on alternative forms of training and education. Articles by D. Court 'Dilemmas of development: the village polytechnic movement as a shadow system of education in Kenya'; E.M.Godfrey and G.C.M. Mutiso: 'The Political economy of self-help: Kenya's Harambee Institutes of Technology'; K. King 'Skill acquisition in the informal sector of the economy'; P. Kinyanjui 'Education by correspondence: The Kenyan experience.'

Dore, R.P. 'Deschool? Try using schools for education first' Institute of Development Studies.Discussion Paper No.t.

When rapidly expanding their own educational systems in the 1950s and 1960s developing countries adopted the then current model of the advanced countries. This resulted in many unintended consequences. The author points to the need to separate the educational and selection functions of schools in developing countries.

Dore, R.P. 'False Prophets: The Cuernavaca critique of school' Institute of Development Studies. Discussion Paper No.12.

Characterises the alternatives suggested by Illich and Reimer as an individualistic, play oriented educational system. To prescribe such an alternative for both the North American context and for poor societies shows "culpable insensitivity".

Evans, D.R. and Smith,W.A. Non-Formal education: Centre for International Education: University of Massachusetts.

A useful overview of the range and characteristics of alternatives to formal education in Third World countries.

Illich,I. Deschooling Society. Penguin 1973.

Education is not the same thing as schooling. The institutional aspects of schooling are a major means of preserving the status quo. Alternatives cover four networks of "learning webs" - skill exchanges, peer matching, reference services to learning materials and reference services to professional educators who would advise and assist in the organisation of the previous three networks.

Maton, J. 'Experience on the job and formal training as alternative means of skill acquisition: An Empirical Study'. International Labour Review September 1969.

Using data from Belgium and Argentina, the author presents a series of substitutability curves showing the possible combinations of experience and formal training required for assistant engineers, junior technicians and skilled workers. He suggests that in conditions favourable to the transmission of skills, on-the-job training may be as effective as formal training for producing highly skilled workers, the loss of time being slight and the cost saving considerable.

Mincer, J. 'On-the-job training: costs and returns and some implications.' Journal of Political Economy, 1962.

Using U.S. data the author concludes that investment in on-the-job training is a very large component of total investment in education. The rate of return on selected investments was not different from the rate of return on total costs of college education, although the private return seemed to be higher for formal education.

Priore, M.J. 'On-the-job training and adjustment to technological change'. Journal of Human Resources. Vol III. No. 4. Fall 1968. pp. 435-49.

The relationship of on-the-job training to the innovating process is analytically discussed.

Reimer, E. School is Dead. Penguin 1971.

A critique of how schools operate universally and what they stand for. Alternative content, organisation and finance in education are called for in addition to alternative views of the relationships between school and society.

G. Some additional, useful bibliographies and reviews.

1. Beirn, R. Kinsey, D. and McGinn N. The antecedents and consequences of early school leaving: an analytical survey of research activities. Harvard University. Centre for studies in education and development. 1972.

2. Blaug, M. Economics of education: a selected annotated bibliograph Oxford. Pergamon Press. 1970 (2nd ed.) with 3 additional supplements (i) July 1969-May 1971. (ii) June 1971- Nov. 1972 (iii) Dec. 1972-Jan. 1974.

3. Chaudhri, D.P. Studies relating to Role of Education in agricultural production and technology: an annotated bibliography I.L.O. 1974.

4. Evans, J. Children in Africa. A review of psychological research. New York 1970. Teachers College Press Columbia University, Chapters 2, 4 and 6.

5. Fraser,S.E. 'China: School and Society: An introductory and partially annotated bibliography pertaining to education in the People's Republic of China. 'Comparative Education Review Vol. 18, No.3, Oct. 1974.

6. Little,A. and Mook B.T. 'The use of educational qualifications in the Labour Market and the effect on the school system' November 1974: Institute of Development Studies working paper No. 29. An annotated bibliography with further summaries of many of the items cited in this bibliography and with special references to methodological issues.

7. Manpower & Unemployment Research in Africa newsletters. Contain updated bibliographies on employment in each issue.

8. Oxenham, J.C.P. A critical review of the literature pertaining to dropout in the rural primary schools of developing countries. 1971. Harvard University. Centre for Studies in Education and Development.

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